

SCS Validation Management Overview

SCS Validation Management

Main Working Areas

- Validation Strategy
- Validation Master Plan (VMP)
- Validation Methodology
- Validation Data Repository
- Support to Validation Projects
- Liaison with other Organisations



Validation Strategy



www.eurocontrol.int/eatmp/library/techiedoc.html#CONCEPT



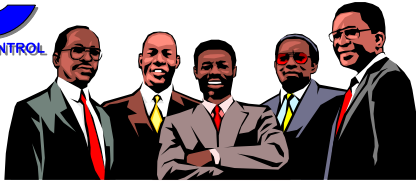
www.eurocontrol.int/faa-euro/start.html

Validation Strategy Highlights

- Overall Plan
- Common Validation Methodology
- Understanding Validation Objectives
- Validation Data Repository (VDR)
- Validation Environment
- Creation of Confidence

Terminology

- Verification
- Certification
- Validation
- Concept Validation



User Needs / Expectations



Initial Requirements



*System Development
Activity*

Development Activity
Product



*System Development
Activity*

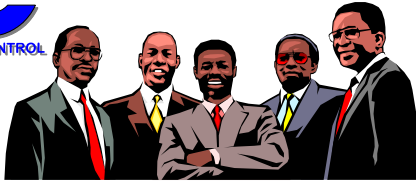
Development Activity
Product



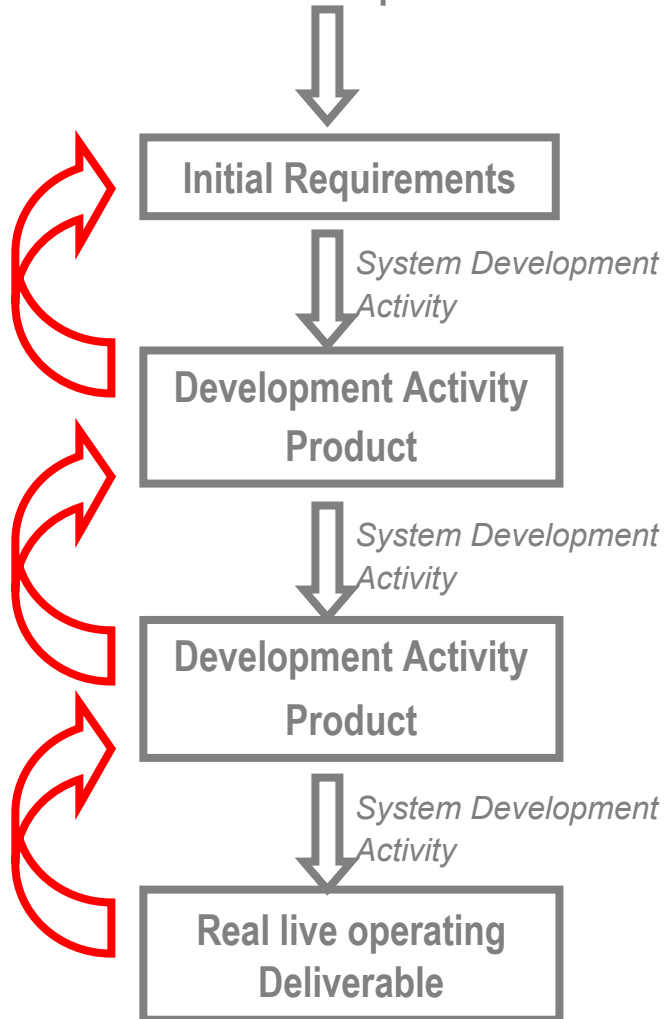
*System Development
Activity*

Real live operating
Deliverable

System Development Process



User Needs / Expectations

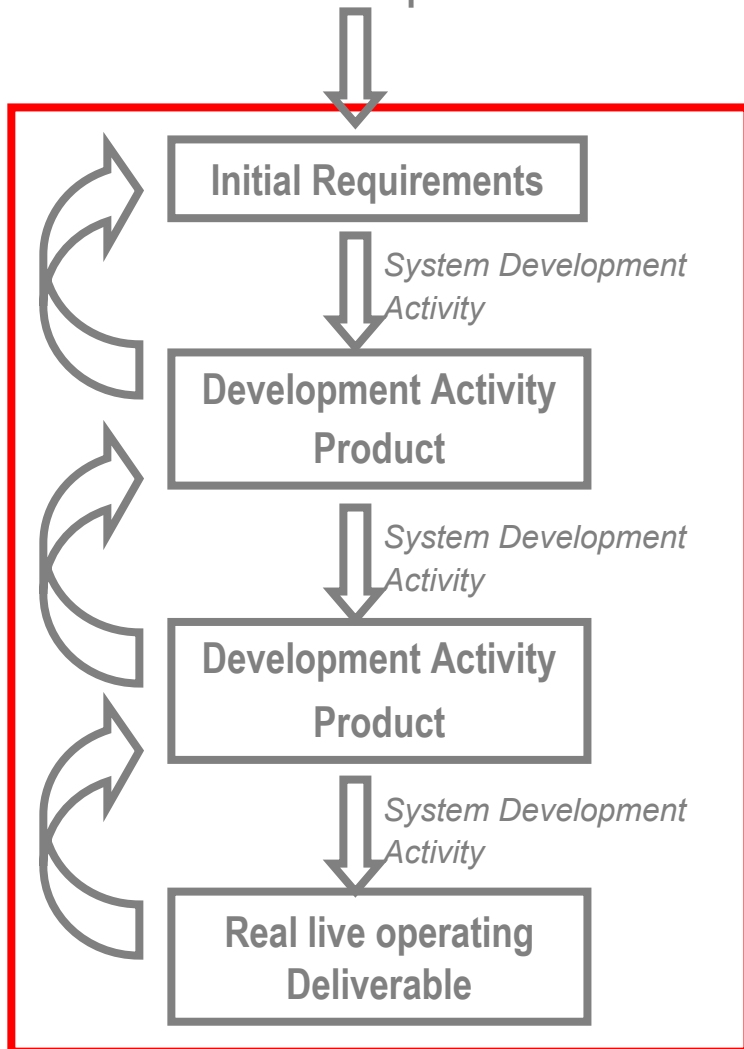


Verification

The process of evaluating the products of a given system development activity to determine correctness and consistency with respect to the products and standards provided as input to this activity.



User Needs / Expectations



Certification

The process aiming at the satisfaction of authority that a deliverable complies with a set of regulations, in order to ensure its proper operation.



User Needs / Expectations



Initial Requirements



System Development Activity

Development Activity Product



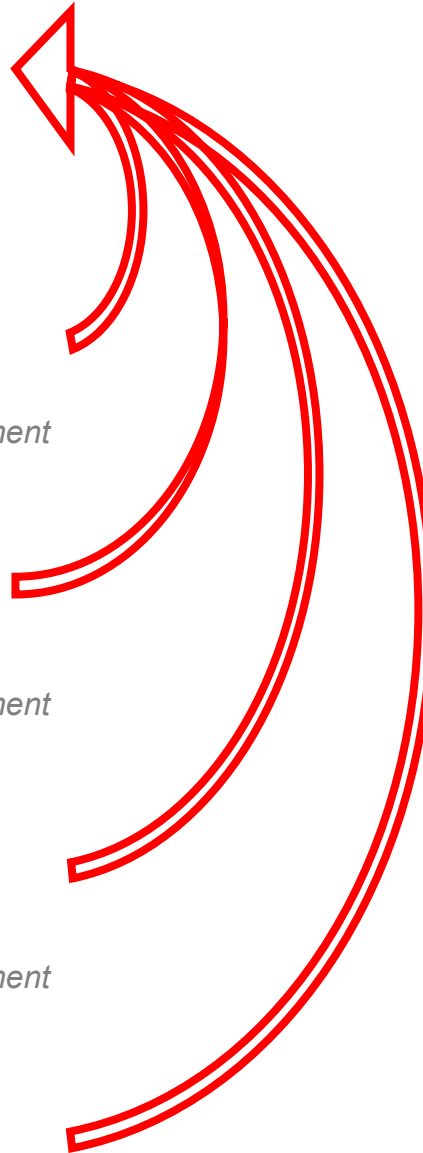
System Development Activity

Development Activity Product



System Development Activity

Real live operating Deliverable



Validation

The process through which a desired level of confidence in the ability of a deliverable to operate in real-life environment may be demonstrated against a pre-defined level of functionality, operability and performance.



User Needs / Expectations



Initial Requirements



System Development Activity

Development Activity Product



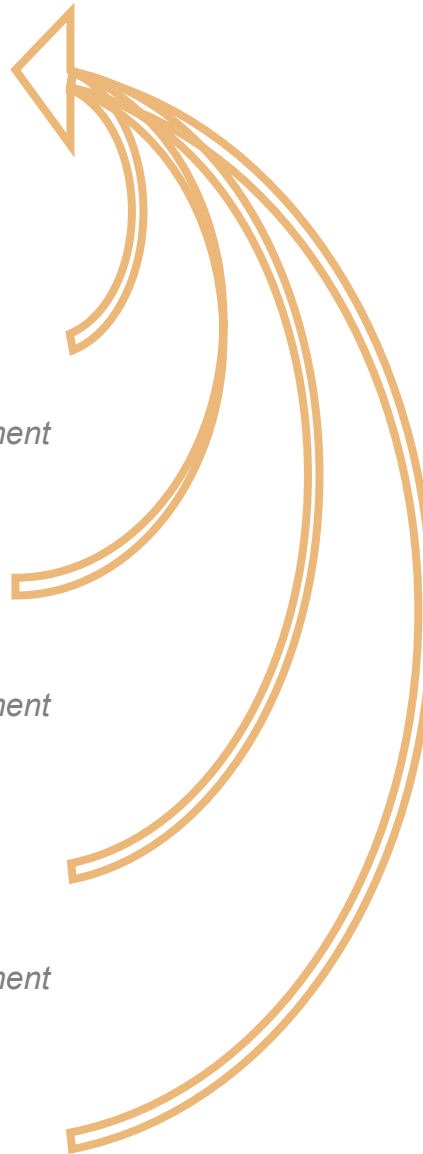
System Development Activity

Development Activity Product



System Development Activity

Real live operating Deliverable

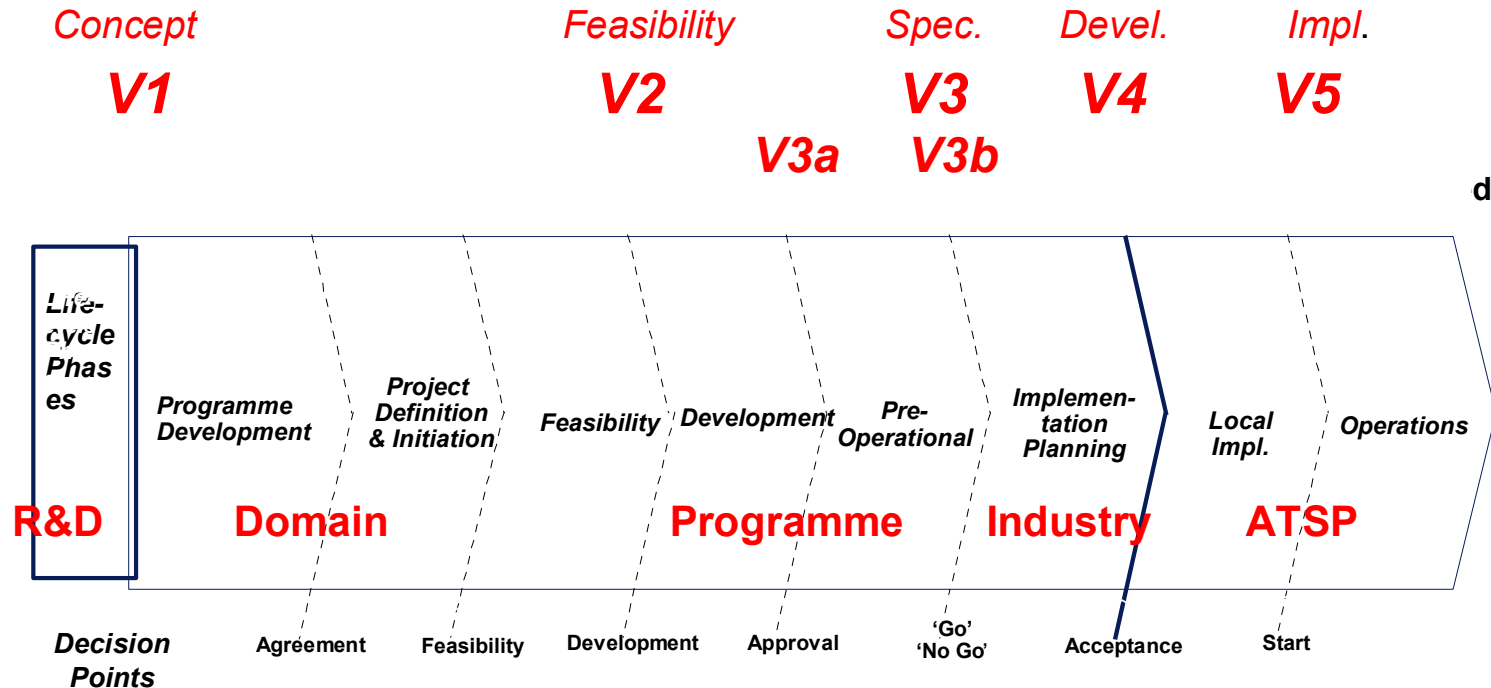


Concept Validation

The sequence of Validation steps integrated into the concept development process by which an individual concept instantiation is validated and through which the necessary understanding to mature the concept is gained.

Application of the Validation Strategy

Validation in the Lifecycle



V1: Basic principles of new concept.

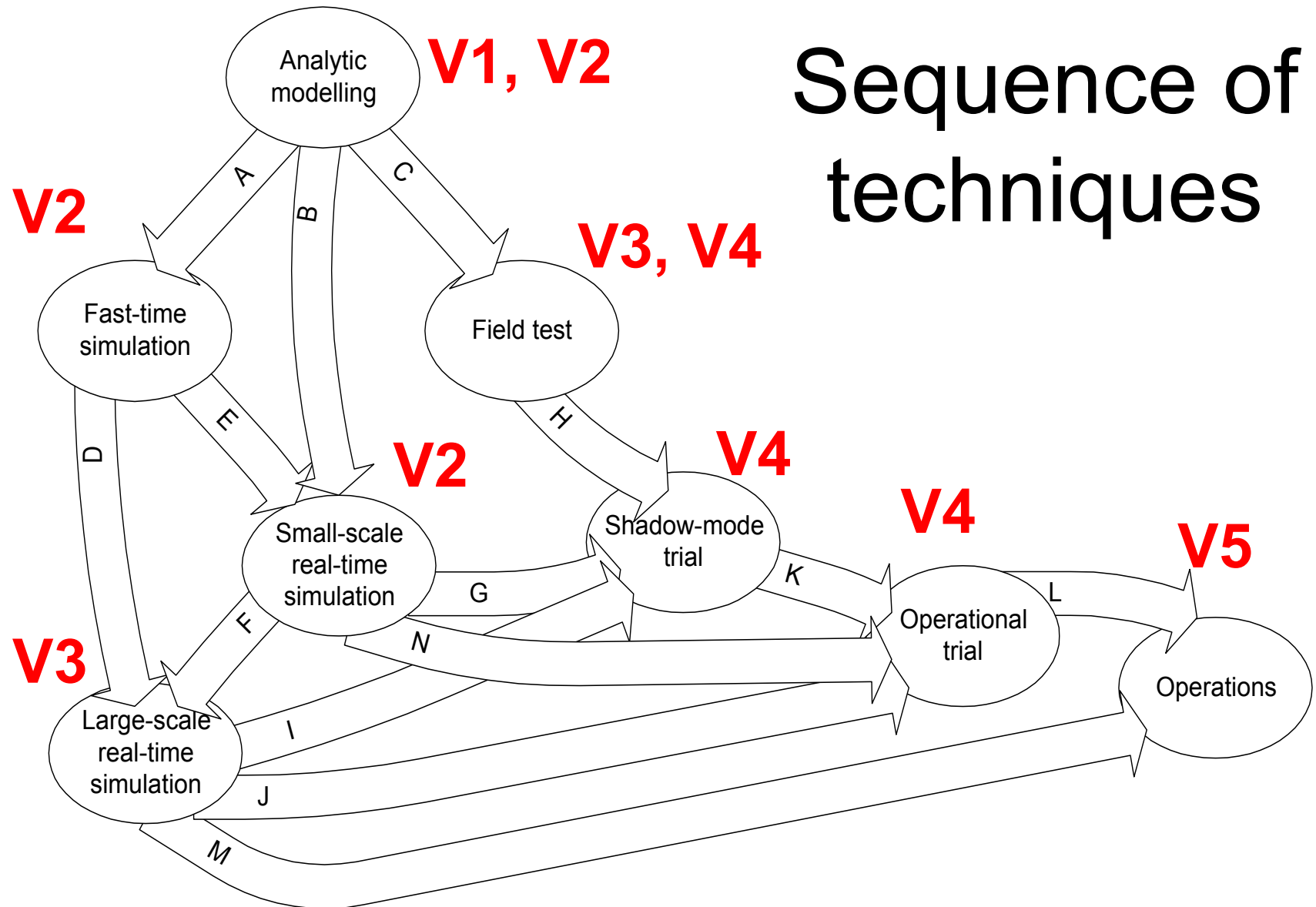
V2: Initial proof of concept, feasibility.

V3: Pre-operational demonstration.

V4: “Factory acceptance”.

V5: On site validation.

Sequence of techniques



The Validation Master Plan

will help to ensure the consistency, completeness and timeliness of EATMP validation activities and to avoid duplications. This will be achieved by:

- identifying the validation activities associated to the Operational Improvements (OIs) and Enablers (ENs);
- providing the status of the validation activities carried out by past and current validation programs, indicating the level of confidence that has been reached for the concerned OIs and ENs;
- proposing new validation programs and the associated planning for all the OIs and ENs that have not been previously covered or that require further validation.

VMP Process

ATM 2000 + Strategy

SPF, Road Map

Consolidated EATMP VMP

OIs/ENs

**Top Down
EATMP VMP**

**Other Organisations
e.g. EC, FAA**

**Synthesis &
Consolidation**

Monitoring

**Domains
Programmes
Projects
Plans**

**Consolidated
Plans**

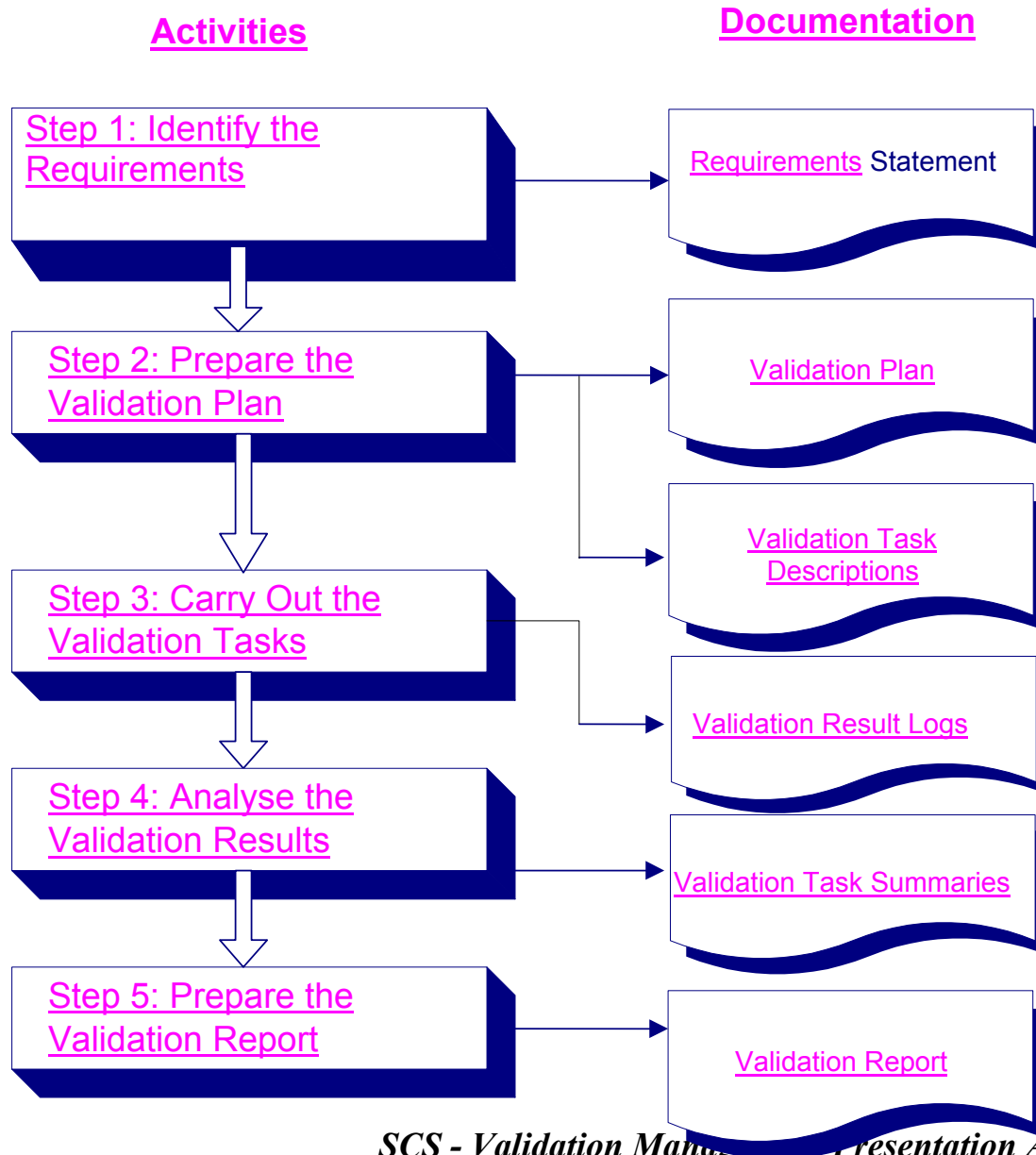
VMP Status and Outlook - 1

- ATD-VMP Pilot Project: 1st ATD-VMP version created - currently
 - VMP approach used in ODP Strategy;
 - support to update ATD PMPs;
 - development of VMP Tool Prototype started.
- When VMP Tool available: Presentation within Agency, preparation of EMC proposal for full VMP implementation.
- VMP-Tool kernel already used in by the EATF.

VMP Status and Outlook - 2

- Co-operation with EC MAEVA started.
- Validation planning is an issue of co-operation with the FAA.

High Level Methodology



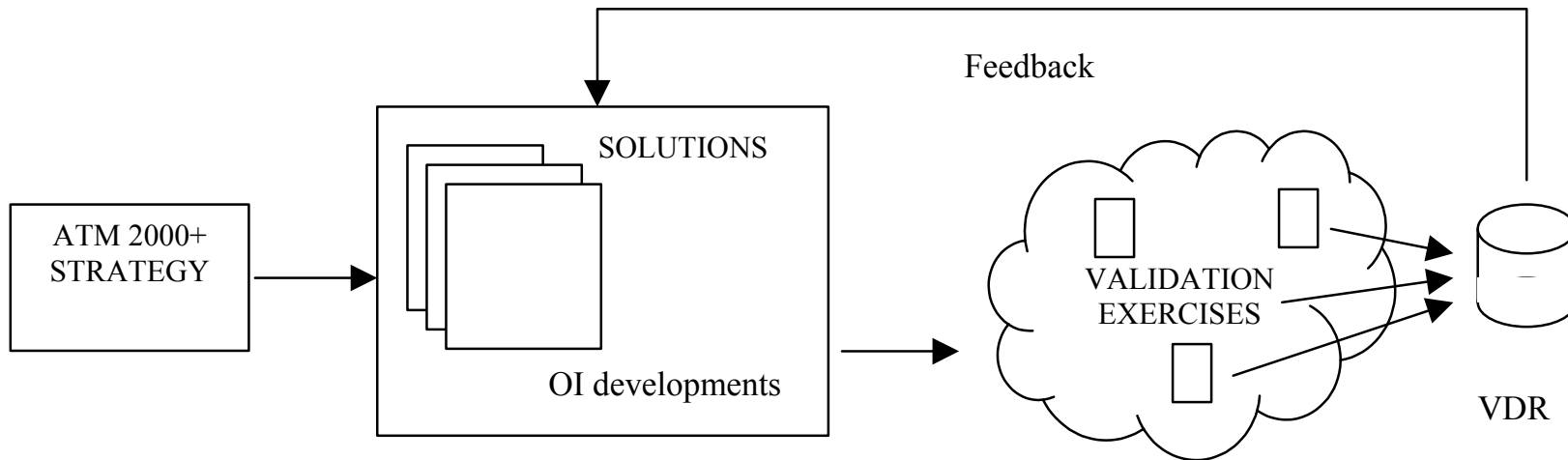
Validation Methodology: Status and Outlook

- Developed together with EC (CAVA, MAEVA projects), Documents available, e.g. www.maeva.isdefe.es.
- Support to Programmes: MFF, G2G, ASAS, INTEGRA, ADS ?
- Currently development of “Applied Validation Methodology” by EEC (under EPDA).
- Planned sequence of a FAA/EUROCONTROL Practitioner Workshop (Start March 2000)

Understanding of Objectives - Metrics

- Participation in validation of the INTEGRA - metrics for:
 - Capacity - Safety - Efficiency - environment.
- Comparison of INTEGRA with FAA metrics using the ASAS application.
- Participation in the CARE-ASAS-VF Project: Scenarios, Metrics, VDR.

Use of the VDR



VDR: Status and Outlook

- First operational version covering validation exercise data available, shortly also via internet.
- Further enhanced versions will follow rapidly.
- User Group organised by EEC.
- Initial population with data ongoing.
- Will be used by CARE-ASAS-VF project.
- Close liaison with EC through MAEVA, potential for broader use by EC-projects.
- Co-ordination with FAA.

Liaison with other organisations

- With the EC through
 - participation in EC projects, currently G2G and MFF;
 - the MAEVA project.
- With the FAA through Action Plan 5: Validation and Verification Strategy.
- With CARE through INTEGRRA and ASAS.
- Last not least with EEC through EPDA.